WHITE PAPER

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Compaq Integrated Management Log Viewer in a Microsoft Windows NT Environment

Compaq continues to make our products easier to manage by introducing the Compaq Integrated Management Log (IML) Viewer, which provides the user with superior serviceability of Compaq servers. This utility allows administrators to view and manage IML system event entries on local or remote systems.

This document provides brief historical information on the Compaq IML and how it relates to the Compaq IML Viewer. Following the background information, this white paper focuses on how and why administrators should use the Compaq IML Viewer, such as understanding utility features, using the utility (locally and remotely), utility tips and benefits. Lastly, this document provides information on how to acquire other online technical documents from Compaq.

The intended audience for this white paper is network administrators and system engineers who install, configure and maintain high-end and mainstream Compaq servers in a Microsoft Windows NT Server environment.

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Compaq Integrated Management Log Viewer in a Microsoft Windows NT Environment

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EXECUTIVE SUMMARY

Compaq continues to make our products easier to manage by introducing the Compaq Integrated Management Log (IML) Viewer, which provides the user with superior serviceability of Compaq servers. This utility allows administrators to view and manage IML system event entries on local or remote systems. An administrator using the remote capabilities of this utility eliminates the need of physically managing individual servers to view, update and modify IML system events.

The intended audience for this white paper is network administrators and system engineers who install, configure and maintain high-end and mainstream Compaq servers in a Microsoft Windows NT Server environment.

INTRODUCTION

Compaq developed the Integrated Management Log (IML) to replace the Critical and Correctable Error Logs. The IML records significant events that occur during system operation, from the normal operational status of components to the identification of a failed component. This non-volatile random access memory (NVRAM) log allows customers to obtain a single historical record of recent system events and errors for post-diagnosis review, thus helping the system administrator or engineer to promptly identify server failures on business-critical networks.

Compaq added versatility to the IML by designing a utility that allows users to view, filter, sort, print, export and archive (save) system event information. Users can view the IML online from a local or remote system via a user-friendly graphical user interface (GUI) utility called the Compaq IML Viewer. This utility provides the system administrator a tool that can aid them in understanding how recent changes or events affected system performance or caused system failure.

WHAT'S NEW

New functionality has been added to the latest version of the Compaq IML Viewer. These new functions include acknowledging pending alerts on the IMD and command line support and can be found on the Compaq SSD for Windows NT 4.0, Version 2.06.

- Acknowledge Alerts – Allows the user to clear flashing alerts on the Integrated Management Display (IMD).
- Command Line Parameters – Provides support for command line parameters so users can use the features of the IML Viewer from a console.

Refer to the appropriate sections in this document for more information on each feature.

UTILITY OVERVIEW

First, understand that the Compaq IML is a repository of significant system events such as memory and power-on-self-test (POST) errors that can occur in either the hardware or software. The Compaq IML Viewer provides easy access to this important information

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so the system administrator can quickly identify system failures. For example, as shown in Table 1, each IML entry provides a status, which correlates to the severity level of each event.

Table 1:
Compaq Integrated Management Log Viewer
Severity Levels

Icon	Term	Description
	Informational	A comprehensive chronicle of past hardware or software system events. This type of event requires no action by the administrator.
	Repaired	An action has taken place to fix this system event and the user marked this event as being "repaired."
	Caution	A non-critical system error has occurred and may or may not require action by the administrator, however, it is recommended to take action if possible, then mark the event as "repaired."
	Critical	A system component on the unit has failed and requires action by the administrator. Replace the system component, and then mark the event as "repaired."

This information provides a status on the condition of the hardware or software so the user can take the appropriate action to monitor or repair the system event that occurred in the IML. Marking events as "repaired" is discussed later in this document.

Along with the severity level, the utility also provides a wealth of additional information to system administrators increasing the serviceability of Compaq servers. Listed below are the event fields found in the Compaq IML Viewer along with a description of each field type:

- Description – A brief description or account of the event including the location such as slot number or port number.
- Class – The category of the event such as in the disk subsystem, operating system, power subsystem, etc.
- Severity – The rating of the system event such as Informational, Repaired, Caution or Critical, where Informational is the lowest level and Critical is the highest. Refer to Table 1 for descriptions of severity levels.
- Count – The number of times the event has occurred since the user cleared the log or since the initial startup of the system.
- Updated Time – The time and date the event was last updated. An IML event is updated when an administrator marks an entry as repaired. Each recorded event has a time stamp of one-minute granularity.
- Initial Time – The time and date stamp of the first occurrence of the system event.

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BACKGROUND

When the IML was first designed, it could be viewed in several ways, such as through Compaq Insight Manager, Remote Insight Board, Compaq Survey Utility or the Liquid Crystal Display (LCD) on Compaq ProLiant servers called the Integrated Management Display (IMD) shown in Figure 1.

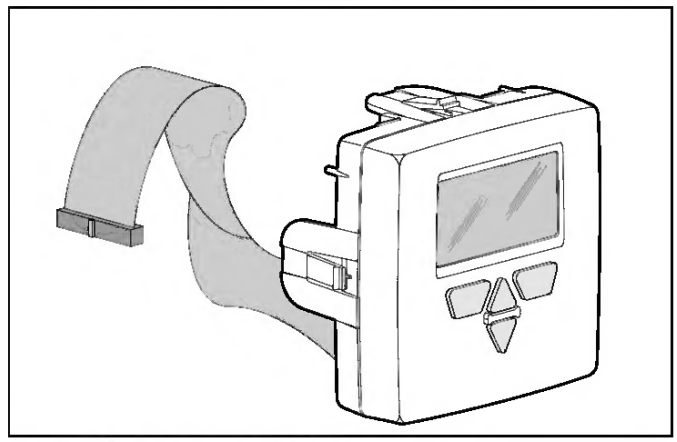

Figure 1: The Integrated Management Display.

The IMD was first supported on the ProLiant 2500; shortly thereafter it was supported on the ProLiant 6000 and is today a feature on most Compaq servers. And now with the development of the Compaq IML Viewer, the newest way of accessing the IML, administrators have an additional means of managing the information in the IML. Refer to Table 2 for a complete list of the current Compaq servers that support an Integrated Management Log.

UTILITY BENEFITS

The Compaq IML Viewer expands Compaq's system management strategy by allowing users to view system events either locally or remotely. The ability to remotely manipulate system event information with features such as view, filter, sort, print, export and save is a tremendous benefit to customers. These benefits include:

- Ability to view the IML of either local or remote systems.
- Ability to obtain a single historical record of recent system events and errors for post-diagnosis review.
- Ability to view detailed system event information in a readable format.
- Ability to save an IML as a binary file so that users can view the saved IML file at a later date or possibly even at a different location.
- Ability to filter or sort IML entries so a user can find specific information quickly.

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- Ability to save the IML to a comma-separated file for viewing at a later date using a third-party application, such as a spreadsheet program.
- Ability to print out a hard copy of the IML.

SOFTWARE AND HARDWARE REQUIREMENTS

Using the Compaq IML Viewer is relatively straightforward once a user understands the basic features of the utility. Understanding the location of where the software needs to reside and the hardware needed to use this utility is the key to successfully implementing and utilizing this utility throughout a network.

Software Requirements

This utility is based upon client/server architecture. This type of network architecture dedicates servers to act as service providers to clients and clients to perform the work. Servers can be dedicated to providing one or more network services such as file storage, shared printing, communications, email service, etc.

Since the Compaq IML Viewer is based on this type of architecture, it can run on any server and connect to any other server on the network running the Compaq Remote Monitor Service. The local machine is no exception. To view the IML on the local machine, it must be running the Compaq Remote Monitor Service. The following is a quick reference of the software required to run the utility:

On the machine running the utility:
Install the Compaq IML Viewer from the Compaq Support Software Diskette (SSD) for Microsoft Windows NT 4.0, Version 2.04A or later.

On the machine the utility will connect to:
Install the Compaq Remote Monitor Service from the Compaq SSD 2.04A or later.

Note: The Compaq IML Viewer and Remote Monitor Service are only supported under Windows NT 4.0.

Hardware Supported

Table 2 lists the Compaq ProLiant Family of Servers that currently support an Integrated Management Log:

Table 2:
IML Servers

ProLiant 1200	ProLiant 5500
ProLiant 1600	ProLiant 6000
ProLiant 2500	ProLiant 6500
ProLiant 3000	ProLiant 7000

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INSTALLING THE UTILITY

The Compaq IML Viewer requires the installation of the Compaq Remote Monitor Service on any system that will be used to view the IML. To install this service as well as the Compaq IML Viewer, use *Custom* or *Express Setup* in the Compaq SSD for Microsoft Windows NT 4.0, Version 2.04A or later.

Note: For information on where to install the Compaq Remote Monitor Service and the Compaq IML Viewer, refer to the "Software Requirements" section documented earlier in this white paper.

Using Custom Setup

To install the Compaq IML Viewer using Custom Setup, perform the following steps:

1. Start Windows NT and login to an account with administrative privileges.
2. Insert the Compaq SSD for Microsoft Windows NT 4.0, Version 2.04 Revision A or later into the diskette drive.
3. Start the Compaq Support Software Setup program.
4. Select *Compaq Integrated Management Log Viewer* and then select the *Install* button.
5. Choose the option to restart the computer now and remove the diskette upon exiting the Setup program.

Using Express Setup

To install the Compaq IML Viewer using Express Setup, perform the following steps:

1. Start Windows NT and login to an account with administrative privileges.
2. Insert the Compaq SSD for Microsoft Windows NT 4.0, Version 2.04 Revision A into the diskette drive.
3. Start the Compaq Support Software Setup program and select the *Express* button.

   Note: Express setup displays a list of components that are available for installation that are either not current or have never been installed on the system.
4. Select the checkbox to install the *Compaq Integrated Management Log Viewer*, then select the *Install* button.
5. Choose the option to restart the computer now and remove the diskette upon exiting the Setup program.

Once the user has completed the above steps, the Compaq IML Viewer icon is loaded in the Windows NT Control Panel and is ready for use. The utility is also added to the Windows NT Start Menu in the following location:

Start\Programs\Compaq System Tools\Compaq Integrated Management Log Viewer

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The topics that follow outline how to use the Compaq IML Viewer.

USING THE UTILITY

Tip: The Compaq IML Viewer is continuously being updated; therefore, if an IML entry is labeled as an Unknown Event, update the Compaq IML Viewer by installing the latest Compaq SSD for Microsoft Windows NT 4.0.

At startup, the utility automatically attempts to connect to the local machine. If the local machine is not running the Compaq Remote Monitor Service or does not support the IML, the utility displays the appropriate error message.

Note: To install the Remote Monitor Service, use the Compaq SSD for Microsoft Windows NT 4.0, Version 2.04A or later.

To view the IML on a local machine using the Compaq IML Viewer, complete the following steps:

1. Start Windows NT and login to your account.

   Note: Login with administrative privileges if you want to be able to mark events as repaired or clear the IML.

2. Start the Compaq IML Viewer by double-clicking on the icon in the Windows NT Control Panel or use the Windows NT Start Menu and select:

   Start\Programs\Compaq System Tools\Compaq Integrated Management Log Viewer

UNDERSTANDING UTILITY FEATURES

The different features available in the first release of the Compaq IML Viewer are discussed within this section of the document. Table 3 briefly describes these features. The sections that follow explain each feature in detail, provide examples and list procedures stating how to use the feature effectively.

Table 3:
Compaq Integrated Management Log Viewer Features

Feature	Description
Marking IML Entries as Repaired	Allows users to mark IML entries as repaired. After the user has physically repaired or replaced the failed component, change the status to "Repaired" thus lowering the severity of the event.
Sorting the IML	Allows users to sort on categories such as Description, Class, Severity, Count, Update and Initial Time. The utility initially sorts the events by Initial Time, displaying the most recent entries first.
Filtering the IML	Allows users to specify which entries are displayed in the viewer. This is a compound filter, allowing viewers to filter entries on more than one category.
Exporting the IML	Allows users to save the IML to a comma-separated file for viewing at a later date using a third-party application.

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Table 3: *(cont.)*
Compaq Integrated Management Log Viewer Features

Feature	Description
Saving the IML	Allows users to save the IML as a file for viewing at a later date.
Clearing the IML	Allows users to remove all entries from the NVRAM on the system, thus permanently clearing the IML.
Printing the IML	Allows users to print out the IML entries currently being viewed. The utility prints only the IML entries displayed on the screen; therefore, to print the entire IML file, clear any filter settings before printing.
Acknowledging Pending Alerts	Allows users to recognize the pending alerts flashing on the system's IMD when a new event is logged to the IML.
Using Command-Line Parameters	Allows users to use the features of the utility from a console.

Marking IML Entries as Repaired

Important: *If an IML entry is marked as repaired using the Compaq IML Viewer, the alerts on the Integrated Management Display will continue to flash. To clear these flashing alerts, view the events through the IMD.*

System administrators can use the Compaq IML Viewer to mark IML entries as "Repaired" after physically repairing or replacing the failed component. For example, as shown in Figure 2, the IML could contain the event "Network Adapter Link Down" with a severity level of "Caution." After verifying the jack, cable or adapter is working properly; the administrator should use the utility to mark the event as "Repaired." This allows the administrator to keep an accurate record of all events that have occurred on the server.

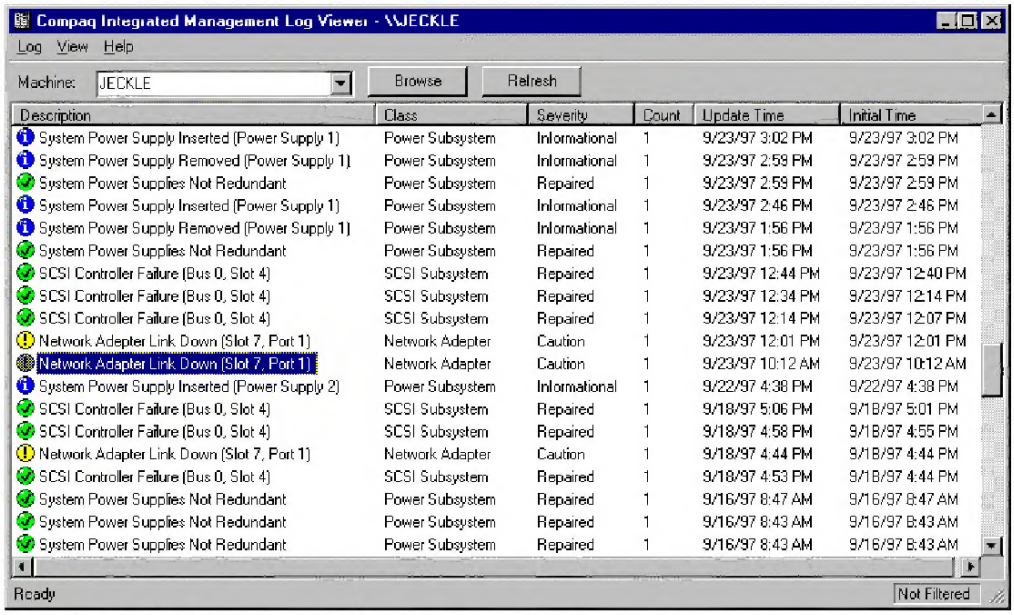
Compaq Integrated Management Log Viewer - \\JECKLE
Log View Help
Machine: JECKLE
Browse
Refresh
Description | Class | Severity | Count | Update Time | Initial Time
System Power Supply Inserted (Power Supply 1) | Power Subsystem | Informational | 1 | 9/23/97 3:02 PM | 9/23/97 3:02 PM
System Power Supply Removed (Power Supply 1) | Power Subsystem | Informational | 1 | 9/23/97 2:59 PM | 9/23/97 2:59 PM
System Power Supplies Not Redundant | Power Subsystem | Repaired | 1 | 9/23/97 2:59 PM | 9/23/97 2:59 PM
System Power Supply Inserted (Power Supply 1) | Power Subsystem | Informational | 1 | 9/23/97 2:46 PM | 9/23/97 2:46 PM
System Power Supply Removed (Power Supply 1) | Power Subsystem | Informational | 1 | 9/23/97 1:56 PM | 9/23/97 1:56 PM
System Power Supplies Not Redundant | Power Subsystem | Repaired | 1 | 9/23/97 1:56 PM | 9/23/97 1:56 PM
SCSI Controller Failure (Bus 0, Slot 4) | SCSI Subsystem | Repaired | 1 | 9/23/97 12:44 PM | 9/23/97 12:40 PM
SCSI Controller Failure (Bus 0, Slot 4) | SCSI Subsystem | Repaired | 1 | 9/23/97 12:34 PM | 9/23/97 12:14 PM
SCSI Controller Failure (Bus 0, Slot 4) | SCSI Subsystem | Repaired | 1 | 9/23/97 12:14 PM | 9/23/97 12:07 PM
Network Adapter Link Down (Slot 7, Port 1) | Network Adapter | Caution | 1 | 9/23/97 12:01 PM | 9/23/97 12:01 PM
Network Adapter Link Down (Slot 7, Port 1) | Network Adapter | Caution | 1 | 9/23/97 10:12 AM | 9/23/97 10:12 AM
System Power Supply Inserted (Power Supply 2) | Power Subsystem | Informational | 1 | 9/22/97 4:38 PM | 9/22/97 4:38 PM
SCSI Controller Failure (Bus 0, Slot 4) | SCSI Subsystem | Repaired | 1 | 9/18/97 5:06 PM | 9/18/97 5:01 PM
SCSI Controller Failure (Bus 0, Slot 4) | SCSI Subsystem | Repaired | 1 | 9/18/97 4:58 PM | 9/18/97 4:55 PM
Network Adapter Link Down (Slot 7, Port 1) | Network Adapter | Caution | 1 | 9/18/97 4:44 PM | 9/18/97 4:44 PM
SCSI Controller Failure (Bus 0, Slot 4) | SCSI Subsystem | Repaired | 1 | 9/18/97 4:53 PM | 9/18/97 4:44 PM
System Power Supplies Not Redundant | Power Subsystem | Repaired | 1 | 9/16/97 8:47 AM | 9/16/97 8:47 AM
System Power Supplies Not Redundant | Power Subsystem | Repaired | 1 | 9/16/97 8:43 AM | 9/16/97 8:43 AM
System Power Supplies Not Redundant | Power Subsystem | Repaired | 1 | 9/16/97 8:43 AM | 9/16/97 8:43 AM
Ready
Not Filtered

Figure 2: Marking "Caution" or "Critical" entries as "Repaired."

Previously, the ability to mark a "Critical" or "Caution" IML entry as "Repaired" was only offered through Insight Manager. Today administrators have the option of using either Insight Manager or the Compaq IML Viewer.

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To mark an event as repaired, complete the following steps:

Important: *If an error occurs while marking multiple IML entries as "Repaired," check all marked entries because some might not have obtained the "Repaired" status.*

1. Start Windows NT and login to an account with administrative privileges.

   Important: A user must logon with administrative privileges to use the "Marked Repaired" feature in the Compaq IML Viewer. Otherwise, this feature is grayed out and unavailable to the user.

2. Start the Compaq IML Viewer by double-clicking on the icon in the Windows NT Control Panel or use the Windows NT Start Menu by selecting:

   Start\Programs\Compaq System Tools\Compaq Integrated Management Log Viewer

3. Highlight the event(s) once an action (to fix or replace the component) has been taken to resolve the problem.

   Note: To select more than one event, hold down the *Ctrl* key to select specific events or hold down the *Shift* key and select a specific group of events.

Tip: *The Mark Repaired feature is also available to the user by highlighting the specified event, then right-clicking on the mouse. The utility displays a secondary menu, where the user can choose to mark events as repaired.*

4. Select *Marked repaired* ... on the Log Menu.

   The utility updates the severity of all selected events to "Repaired." If the IML entry has been marked as "Repaired" previously, the utility does not update the record; therefore, the Update Time stamp will remain the same.

   Once all selected events have been changed to the Repaired status, the utility displays the updated entries so that all successfully updated events reflect the severity status of "Repaired" and the "Updated Time" stamp reflects the time and date the IML entry was updated to the "Repaired" status.

Sorting the IML

Tip: *The utility prints sorted information as it is displayed on the screen. The utility, however, does not save the sorted information in that format. It reverts back to displaying all entries. Sorting and filtering only affect printing, not saving or exporting the IML entries.*

The sorting feature allows the user to sort by general event descriptions, class, severity, count, and updated or initial time. When the user first launches the program, the utility sorts the events by Initial Time displaying the most recent entries first.

Note: The sort feature toggles between ascending and descending order for subsequent clicks on the column header of the same field.

The utility also maintains the sort order when you refresh the view or apply a filter. For example, if a user selects to sort the *Initial Time* column header in descending order, the utility displays the latest logged event descending to the earliest event logged. Next the user applies a filter to the sorted information. The user selects the filter criteria so that the utility displays only operating system events. Once both of these steps are complete, the sorted and filtered results reveal only the operating system events logged; however the sort order remains intact.

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The procedures included in this section presume you have started Windows NT, logged in to your account and opened the Compaq IML Viewer. The steps that follow outline how to sort events using the Compaq IML Viewer.

1. Select the column header on the field by which you want to sort.

2. Click on the same column header to toggle between ascending and descending order.

Filtering the IML

The filtering feature allows users to specify which entries are displayed in the viewer. For example, if a user wants to view all the critical errors that occurred in the past week, they could use the filtering feature to view this information.

The Compaq IML Viewer filter is a compound filter, thus allowing users to filter entries on more than one category. For example, if a user selects *Operating System* for the class, *Critical* for the severity and *Since Last Month* for update time, the utility displays only the critical Operating System events that occurred in the previous month. Refer to Figure 3 to view a sample of the filter categories available in the utility.

The procedures included in this section presume you have started Windows NT, logged in to your account and opened the Compaq IML Viewer. The steps that follow outline how to filter events using the Compaq IML Viewer.

1. Select *Filter* on the View Menu.

2. Choose the field on which you want to filter the events. The field categories are Class, Severity, Update Time and Initial Time.

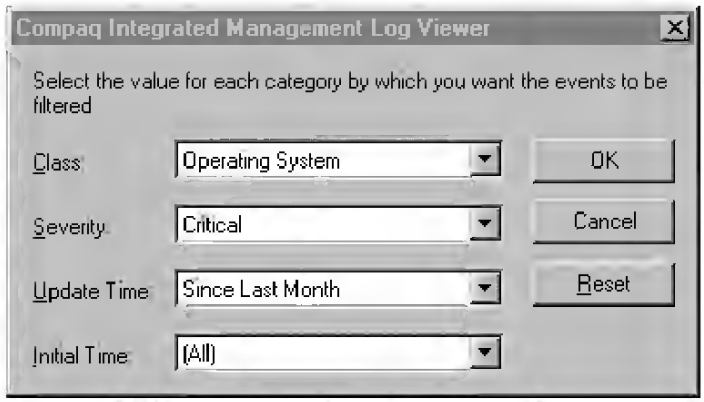

Figure 3: Filtering IML entries using the Compaq IML Viewer.

Note: Select the *All* filter option to view all of the IML entries logged for that field category.

3. Select *OK* to apply the filter.

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Once a filter has been applied, the utility displays the word *Filtered* on the bottom right-hand side of the screen.

4. Select *Reset* on the filter dialog box or select *All Entries* on the View Menu to view all of the IML entries in the log.

Exporting the IML

The Compaq IML Viewer offers many advanced serviceability features such as the ability to save the IML to a comma-separated file. This feature allows users to save the IML in this format so it can be read into third-party applications. This feature becomes quite handy for administrators that need spreadsheet capabilities for manipulating and presenting data. For example, an administrator could save an IML file from servers on the entire network, then import each comma-separated file into one spreadsheet where they could review data online or use this data for presentation purposes at a later date.

The procedures included in this section presume you have started Windows NT, logged in to your account and opened the Compaq IML Viewer. The steps that follow outline how to export saved IML files using the Compaq IML Viewer.

1. Select *Export Log ...* on the Log Menu, and then select the file name and location of where you would like to export the file.

2. Select *Save* to save and export the IML entries to a new file.

   Once these steps are completed, the file can be read into any third-party application that supports comma-separated files.

Saving the IML

Saving the IML allows administrators to save IML entries for historical purposes. The Compaq IML Viewer saves the IML entries in a binary format so system administrators can review the system event information at a later date using the utility. Once the IML has been saved or "archived," the file becomes a static log of system events and is no longer dynamically updated by the IML.

There is a limited amount of memory allocated for the IML on the server, and when the log reaches full capacity, the IML begins to overwrite the oldest system events with new entries (this is known as "wrapping").

Important: Historical information can be lost unless the IML has been saved. System administrators should make it a habit to save the IML on a regular basis.

Compaq recommends saving then clearing the IML because this maximizes the space available for new system events to be logged; therefore, reducing the chance of losing any impending IML entries. Furthermore, clearing the IML eliminates any redundant entries. Refer to "Clearing the IML" for detailed information on removing all IML entries from NVRAM.

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The procedures included in this section presume you have started Windows NT, logged in to your account and opened the Compaq IML Viewer. The steps that follow outline how to save IML files using the Compaq IML Viewer.

1. Select *Save Log as* ... on the Log Menu to save the IML.

2. Type the name of the file to be saved, then select the location of where you would like to save it.

3. Select *Save* to save the entries to a new file.

Clearing the IML

The Compaq IML Viewer has the ability to clear all the entries from the IML. When the user chooses to clear the IML, the utility physically removes all IML entries from the NVRAM on the system. Since this action causes data loss, the utility prompts the user with a warning message as shown in Figure 4.

Important: A user must logon with administrative privileges to use the "Clear all Entries" feature in the Compaq IML Viewer. Otherwise, this feature is grayed out and unavailable to the user.

Tip: When selecting the Clear option, the IML entries stored in NVRAM are removed. Since the IML and Insight Manager both retrieve their information from NVRAM, the data becomes unavailable for both applications.

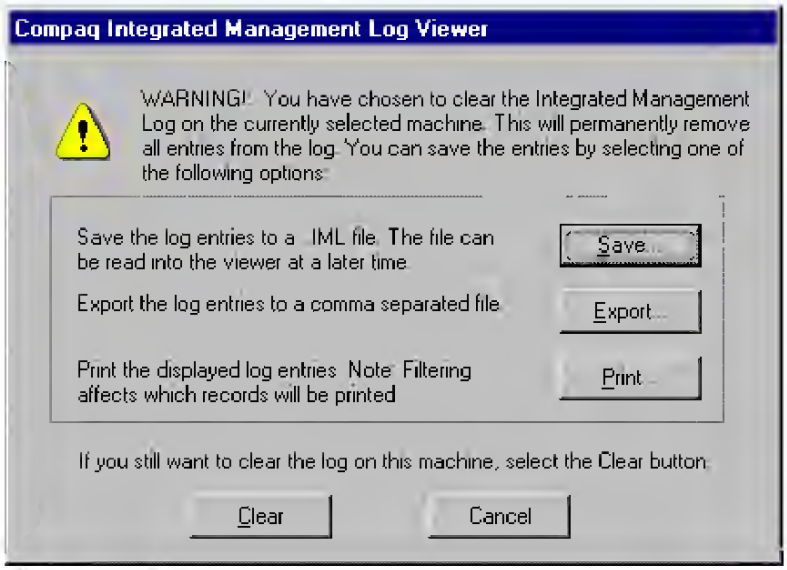
Compaq Integrated Management Log Viewer
WARNING! You have chosen to clear the Integrated Management Log on the currently selected machine. This will permanently remove all entries from the log. You can save the entries by selecting one of the following options:
Save the log entries to a IML file. The file can be read into the viewer at a later time.
Save...
Export the log entries to a comma separated file.
Export...
Print the displayed log entries. Note: Filtering affects which records will be printed.
Print...
If you still want to clear the log on this machine, select the Clear button.
Clear
Cancel

Figure 4: Warning message appears when clearing the Integrated Management Log.

The user can choose to save, export or print the IML before clearing it. Compaq recommends choosing one of these options to ensure administrators have some mechanism of retrieving a historical record of the IML. Even though the utility uses these built-in safety features to protect the user, a user can elect to ignore the recommendation and clear the log without saving any IML files by selecting the *Clear* button shown in Figure 4. For procedures on how to use the save, export or print features, refer to the appropriate section within this document.

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Important: *Clearing the IML is data destructive and therefore an irreversible process. Save the IML by choosing to save, export, or print before clearing it.*

The procedures included in this section presume you have started Windows NT, logged in to your account and opened the Compaq IML Viewer. The steps that follow outline how to clear the IML using the Compaq IML Viewer.

1. Select *Clear All Entries...* on the Log Menu.
2. Choose one of the following options provided to save the current IML:
   - Save – Saves the IML to a file so that a user can view the information at a later date. However, once the saved IML file has been archived it becomes static information; therefore, system administrators cannot mark event entries as repaired and the saved IML file is no longer dynamically updated.
   - Export – Allows users to save the IML to a comma-separated file for viewing at a later date using a third-party application. Once the IML has been exported it also becomes a static file.
   - Print – Allows users to print out the IML entries currently being viewed. The utility prints only the IML entries displayed on the screen. To print the entire IML, clear any filter settings before printing.
3. Select the *Clear* button once you are ready to remove the IML entries from NVRAM.

   Since this is data destructive, the utility prompts you to confirm your actions.
4. Select *Yes* to confirm and the utility deletes all IML entries on the currently selected machine.

Printing the IML

Printing the IML provides users with a hard copy of the Integrated Management Log. The Compaq IML Viewer prints only the IML entries displayed on the screen. To print the entire log, be sure to clear any filters that have been applied to the IML.

Note: A quick and easy way to check if the Filter is on is to look at the right-hand side of the status bar. If a filter has been applied, the utility displays the word *Filtered*; otherwise, the utility displays *Not Filtered*.

The procedures included in this section presume you have started Windows NT, logged in to your account and opened the Compaq IML Viewer. The steps that follow outline how to print a log using the Compaq IML Viewer.

1. Select *Print...* on the Log Menu.
2. Choose the printer name in which you want to print.
3. Select the print range, number of copies, and then select the *OK* button to print the log file.

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Acknowledging Pending Alerts

When a new event is logged to the IML, a pending alert message is flashed on the system's IMD. Users can clear the flashing alert message by selecting *Acknowledge Alerts* from the Log Menu in the Compaq IML Viewer.

Note: If the attempt to acknowledge the pending alerts on the IMD fails, it is possible that the version of the system ROM is not current. Use the Compaq SmartStart CD, Version 4.0 to update the system ROM to a newer version that supports this feature.

Using Command Line Parameters

Note: By default, the log filename is cpqimlv.log.

The Compaq IML Viewer also supports command line operation of the utility via the Command prompt. As the user executes commands, feedback is provided through success and error messages written to a log file. No display is generated on the screen as the user executes command line parameters. However, a user can view the text-based file by opening the filename *cpqimlv.log* under Notepad.

Important: A user must have administrator privileges to run the command line parameters.

Table 4:
Command Line Parameters

Parameter	Description
/?	Displays the command-line arguments help topic.
/f:[filename]	Allows users to specify the file for status logging. This parameter is optional, if it is not specified, the default filename of *cpqimlv.log* will be used. In addition, if the user does not provide the .LOG extension, it will be automatically added to the log filename.
/m:[machine]	Allows users to specify the machine in which they are connecting. This parameter is optional, if it is not specified, the utility will connect to the local machine.
/p:[filename]	Allows users to print the IML entries. If the filename is specified, the IML entries will be printed to that file, otherwise, it will be printed to the default printer.
/save:[filename]	Allows users to save the IML entries to a binary file specified by a filename. The binary file can be read back into the IML Viewer at a later date. If the user does not provide the .IML extension, it will be automatically added to the binary filename.
/export:[filename]	Allows users to export the IML entries to a comma-separated file specified by filename.
/ackalerts	Allows users to acknowledge pending alerts on the IMD. This action clears any currently pending alerts from the system's IMD, however, when new alerts are received the IMD will begin flashing again.
/clear	Allows users to clear all entries from the IML. Note that this is a data destructive action and should be accompanied by one of the following actions: /save, /p, or /export. The utility executes the *Clear* command last, regardless of the order of the parameters on the command line, this is to ensure that the data in the IML has been preserved in some form before it is cleared.

For example, to save IML entries to the file called *TEST.IML* and then clear the log on a machine called TEST, type the following at a Command prompt:

```
cpqimlv.exe /m:test /save:test.iml /clear
```


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Viewing a Saved IML File

As stated earlier in this document, IML files become static information once a user saves, exports, or prints the IML. Static IML files can be a very useful means of storing historical data.

The procedures included in this section presume you have started Windows NT, logged in to your account and opened the Compaq IML Viewer. The steps that follow outline how to view a static IML file using the Compaq IML Viewer.

Tip: Another way to view a saved IML file is by double clicking on the file name in the Windows NT Explorer. All saved log files have an IML extension.

1. Select *Open Log File* ... on the Log Menu.
2. Choose the directory and file you want to view and select *OK* to open the file.

   To close the current file, open a different file or successfully connect to another machine.

Important: When viewing the IML on a server for an extended period of time, be sure to select the *Refresh* button to retrieve the latest IML entries. The utility does not dynamically update/refresh its list.

Connecting To a Remote Machine

Tip: The IML Viewer displays up to ten of the most recently connected to machine names in a drop down list box. However, for these names to show up in the list, the user must connect successfully to the remote machine at least once.

Being able to remotely view the IML from another system is an invaluable tool. The Compaq IML Viewer provides system administrators the ability to view the IML on servers located down the hall, several buildings down the street, or thousands of miles away.

At startup, the utility attempts to connect to the local machine. To connect to a remote machine using the Compaq IML Viewer, complete the following steps:

1. Start Windows NT and login to your account.

   Note: Login with administrative privileges if you want to be able to mark events as repaired or clear the log. Otherwise, administrative privileges are not necessary just to view IML files.

2. Start the Compaq IML Viewer by double-clicking on the icon in the Windows NT Control Panel or use the Windows NT Start Menu and select:

   Start\Programs\Compaq System Tools\Compaq Integrated Management Log Viewer

Tip: The Compaq IML Viewer is continuously being updated; therefore, if an IML entry is labeled as an Unknown Event, update the Compaq IML Viewer by installing the latest Compaq SSD for Microsoft Windows NT 4.0.

3. Type either the machine name in the *Machine* list box then press *Enter* or select one of the ten most recent machine connections found in the drop-down list box.

   A user can also select *Browse for Machines* ... on the Log Menu or use the *Browse* button to locate remote machines.

   Once the utility successfully connects to a remote server, the user can view the event entries in the IML.

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UTILITY TIPS

Compaq creates helpful system utilities so that system administrators and engineers can be more productive at their jobs. Listed below are some useful tips all users should know while using Compaq IML Viewer. Most but not all of these tips are listed once again, for your convenience, in the margin of any procedural sections of this white paper. These tips are grouped by topic and include the following:

Marking Events as Repaired

- A user must logon with administrative privileges to use the "Marked Repaired" feature in the Compaq IML Viewer. Otherwise, this feature is grayed out and unavailable to the user.
- If an IML entry is marked as repaired using the Compaq IML Viewer, the alerts on the Integrated Management Display will continue to flash. To clear these flashing alerts, view the events through the IMD.
- If an error occurs while marking multiple IML entries as "Repaired," check all marked entries because some might not have obtained the "Repaired" status.
- To select more than one event, hold down the *Ctrl* key to select specific events or hold down the *Shift* key and select a specific group of events.
- If an IML entry has been marked as "Repaired" previously, the utility does not update the record; therefore, the Updated Time stamp will remain the same.
- The Mark Repaired feature is also available to the user by highlighting the specified event, then right-clicking on the mouse. The utility displays a secondary menu, where the user can choose to mark events as repaired.

Sorting the IML

- The utility prints sorted information as it is displayed on the screen. The utility, however, does not save the sorted information in that format. It reverts back to displaying all entries. Sorting and filtering only affect printing, not saving or exporting the IML entries.
- The sort feature toggles between ascending and descending order for subsequent clicks on the column header of the same field.

Filtering the IML

- The filtering feature allows users to specify which entries are displayed in the viewer. It is also a compound filter, thus allowing users to filter entries on more than one category.
- A quick and easy way to check if the Filter is on is to look at the right-hand side of the status bar. If a filter has been applied, the utility displays the word *Filtered*; otherwise, the utility displays *Not Filtered*.

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Exporting the IML

- Exporting saves then exports the IML to a comma-separated file so that it can be read into third-party applications. Once the IML has been saved it becomes a static file and is no longer dynamically updated by NVRAM.

Saving the IML

- Historical information can be lost unless the IML has been saved. System administrators should make it a habit to save the IML on a regular basis.
- When selecting to save the IML, the utility saves the IML entries in a binary format. Again, just like exporting, once the IML has been saved it becomes a static file and is no longer dynamically updated by NVRAM.

Clearing the IML

- When selecting the Clear option, the IML entries stored in NVRAM are removed. Since the IML Viewer and Insight Manger both retrieve their information from NVRAM, the data becomes unavailable for both applications.
- Clearing the IML is data destructive and therefore an irreversible process. Save the IML information by choosing to export, save or print the IML before clearing it.
- It is recommended to save then clear the IML to maximize the space available for new IML entries; therefore, reducing the chance of losing any impending entries.
- A user must logon with administrative privileges to use the "Clear all Entries" feature in the Compaq IML Viewer. Otherwise, this feature is grayed out and unavailable to the user.

Printing the IML

- To print the entire log, be sure to clear any filters that have been applied to the IML.

Acknowledging Pending Alerts

- If the attempt to acknowledge the pending alerts on the IMD fails, it is possible that the version of the system ROM is not current. Use the Compaq SmartStart CD, Version 4.0 to update the system ROM to a newer version that supports this feature.

Using Command Line Parameters

- To clear the log or acknowledge pending alerts via command line parameters, a user must have administrator privileges.

Viewing a Saved IML File

- Saved IML files can be viewed either by opening the file within the utility or by double clicking on the .IML file in Windows NT Explorer.

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Viewing the IML

- When viewing the IML on a server for an extended period of time, be sure to select the *Refresh* button to retrieve the latest IML entries. The utility does not dynamically update/refresh its list.

- The Compaq IML Viewer is continuously being updated; therefore, if an IML entry is labeled as an *Unknown Event*, update the Compaq IML Viewer by installing the latest Compaq SSD for Microsoft Windows NT 4.0.

Connecting To a Remote Machine

- The IML Viewer displays up to ten of the most recently connected to machine names in a drop down list box. However, for these names to show up in the list, the user must connect successfully to the remote machine at least once.

ONLINE RESOURCES FROM COMPAQ

Compaq maintains a library of technical documents on its World Wide Web site. The Compaq Technical Information Library, located on the Compaq Web site, contains a collection of technical documentation that Compaq produced to support Microsoft Windows NT on Compaq servers.

You can download these and many other documents by accessing the Compaq Web site at:

http://www.compaq.com/support/techpubs

SUMMARY

Compaq continues to take great strides toward ensuring greater serviceability for all Compaq servers. The Compaq IML coupled with the new Compaq IML Viewer further enhances this objective, where Compaq provides systems management functionality in all of our server products.

Moreover, the Compaq IML Viewer is one more piece of Compaq's reliability and serviceability strategy incorporated into all of our servers. The benefits of this utility combined with the comprehensive systems management offered through other Compaq hardware and software products make Compaq systems the most manageable choice and therefore the right solution for your computing needs.

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